



ArF Immersion Scanner

NSR-S635E

Proven Solutions Through Evolution



Industry-leading ArF Immersion Scanner for High-volume Manufacture of Devices at the 5 nm Process Node Improves Overlay Accuracy and Throughput

The NSR-S635E ArF immersion scanner with integrated inline Alignment Station (iAS) developed for high-volume 5 nm node application manufacturing.

Adopting the *Streamalign* platform efficiency, the NSR-S635E delivers improved overlay accuracy under 2.1 nm MMO and remarkable throughput of more than 275 WPH (96 shots) simultaneously.

NSR-S635E

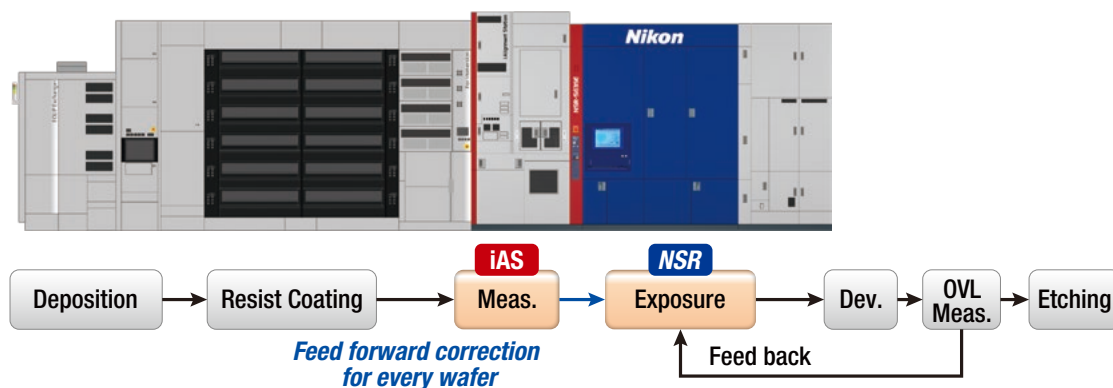
Performance

Resolution	≤ 38 nm
NA	1.35
Exposure light source	ArF excimer laser (193 nm wavelength)
Reduction ratio	1:4
Maximum exposure field	26 mm × 33 mm
Overlay	SMO ^{*1} : ≤ 1.5 nm, MMO ^{*2} : ≤ 2.1 nm
Throughput	≥ 275 wafers/hour (96 shots)

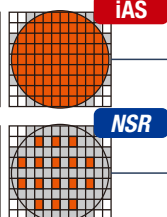
*1 Single Machine Overlay: machine-to-self overlay accuracy (NSR-S635E#1 to S635E#1)

*2 Mix and Match Overlay: machine-to-machine overlay accuracy (NSR-S635E#1 to S635E#2)

Features of the inline Alignment Station (iAS)



Measure and FF
- Dense sampling
- High order grid correction



Alignment on the NSR
- Sparse sampling
- Linear grid correction

The alignment station performs high-speed, ultra-precise measurement of all wafers, and then corrects problematic grid errors without reducing the throughput of the lithography system. The iAS enables comprehensive, multi-point alignment for all shots on the wafer, realizing remarkable overlay improvements, as well as maximized scanner throughput.

Alignment Corrections

CLASS 1 LASER PRODUCT



WARNING

TO ENSURE CORRECT USAGE, READ MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT.

The export of this product is controlled by Japanese Foreign Exchange and Foreign Trade Law and International export control regime. It shall not be exported without authorization from the appropriate governmental authorities.

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